

SEQUENCE LISTING

<110> O'DOWD, BRIAN F.
GEORGE, SUSAN R.

<120> METHOD OF IDENTIFYING TRANSMEMBRANE PROTEIN-INTERACTING COMPOUNDS

<130> 3477-110

<140> US 10/509,787

<141> 2004-09-30

<150> PCT/CA03/00542

<151> 2003-04-11

<150> 60/442,556

<151> 2003-01-27

<150> 60/422,891

<151> 2002-11-01

<150> 60/387,570

<151> 2002-06-12

<150> 60/379,419

<151> 2002-05-13

<150> 60/371,704

<151> 2002-04-12

<160> 158

<170> PatentIn version 3.1

<210> 1

<211> 49

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 1

gaggactctg aacaccgaat tcgccgccat ggacgggact gggctggtg

49

<210> 2

<211> 45

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 2

gtgtggcagg attcatctgg gtaccgcggt tgggtgctga ccgtt

45

<210> 3

<211> 51

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 3

cctaagaggg ttgaaaatct tttaaatttt ttagcattaa aggcataaat g

51

<210> 4

<211> 48

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 4

gcctttaatg ctaaaaaatt taaaagattt tcaaccctct taggatgc

48

<210> 5

<211> 19

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 5

Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Asn	Ala	Asp	Phe	Arg	Lys	Ala	Phe	Ser
1				5					10					15	

Thr Leu Leu

<210> 6

<211> 19

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 6

Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Asn	Ala	Lys	Lys	Phe	Lys	Arg	Phe	Ser
1				5					10					15	

Thr Leu Leu

<210> 7

<211> 27

<212> DNA

<213> Artificial sequence

<220>
<223> primer

<400> 7
tacccttacg acgtgccgga ttacgcc

27

<210> 8
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 8

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
1 5

<210> 9
<211> 84
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 9
ggatccacta gtaacggccg ccagaccacc atgggatacc cgtacgacgt ccccgactac 60

gcaaggactc tgaacacctc tgcc 84

<210> 10
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 10
ggccgccagc tgcgagttca ggttggggtgc tgaccg 36

<210> 11
<211> 16
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 11

Met Arg Thr Leu Asn Thr Ser Ala Met Asp Gly Thr Gly Leu Val Val
1 5 10 15

<210> 12
<211> 26
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 12

Met Gly Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Arg Thr Leu Asn Thr
1 5 10 15

Ser Ala Met Asp Gly Thr Gly Leu Val Val
20 25

<210> 13
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 13
ggaaagtctt ttaagaaga agttcaaaag agaaac 36

<210> 14
<211> 36
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 14
gtttctcttt tgaacttctt cttaaaagaa ctttcc 36

<210> 15
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 15

Gln Pro Glu Ser Ser Phe Lys Met Ser Phe Lys Arg Glu Thr Lys Val
1 5 10 15

Leu

<210> 16
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 16

Gln Pro Glu Ser Ser Phe Lys Lys Lys Phe Lys Arg Glu Thr Lys Val
1 5 10 15

Leu

<210> 17
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 17
ccggtatgag aaaaagttaa aacgcaaggc agccttc

37

<210> 18
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 18
ggctgccttg cgtttaaact ttttctcata ccggaaagg

39

<210> 19
<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 19

Asn Pro Phe Arg Tyr Glu Arg Lys Met Thr Pro Lys Ala Ala Phe Ile
1 5 10 15

Leu Ile

<210> 20

<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 20

Asn	Pro	Phe	Arg	Tyr	Glu	Lys	Lys	Phe	Lys	Arg	Lys	Ala	Ala	Phe	Ile
1				5					10					15	

Leu Ile

<210> 21
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 21
gtgctgccgt taaaaagttc aaacgcctgc ggtccaagg

39

<210> 22
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 22
ggaccgcagg cgtttgaact ttttaacggc agcacagacc

40

<210> 23
<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 23

Leu	Val	Cys	Ala	Ala	Val	Ile	Arg	Phe	Arg	His	Leu	Arg	Ser	Lys	Val
1				5					10					15	

Thr Asn

<210> 24
<211> 18

<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 24

Leu Val Cys Ala Ala Val Lys Lys Phe Lys Arg Leu Arg Ser Lys Val
1 5 10 15

Thr Asn

<210> 25
<211> 44
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 25
gcctttaatc ctaaaaaaaaa aagaaaggtt tcaaccctct tagg 44

<210> 26
<211> 44
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 26
cctaagaggg ttgaaacctt tctttttttt ttaggattaa aggc 44

<210> 27
<211> 19
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 27

Asn Pro Ile Ile Tyr Ala Phe Asn Ala Asp Phe Arg Lys Ala Phe Ser
1 5 10 15

Thr Leu Leu

<210> 28
<211> 19
<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 28

Asn Pro Ile Ile Tyr Ala Phe Asn Pro Lys Lys Lys Arg Lys Val Ser
1 5 10 15

Thr Leu Leu

<210> 29

<211> 45

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 29

ggccgtggct ccaccgaatt cgccgccatg gatccactga atctg

45

<210> 30

<211> 43

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 30

ctgtgcgggc aggcagggtta ccgcgcagtg gaggatcttc agg

43

<210> 31

<211> 44

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 31

caccaccttc aacaaaaaat tcaaaagagc cttcctgaag atcc

44

<210> 32

<211> 44

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 32

ggatcttcag gaaggctctt ttgaattttt tggtgaagggt ggtg

44

<210> 33
<211> 46
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 33
ggcatcacgc acctcaagct tgccgccatg gcatctctga gtcagc 46

<210> 34
<211> 45
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 34
gagtgttccc tcttctgcgg taccgcgcaa gacaggatct tgagg 45

<210> 35
<211> 17
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 35
aatacgactc actatag 17

<210> 36
<211> 46
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 36
cgccagtgtg atggataatg gtaccgcatg gaatccattc ggggtg 46

<210> 37
<211> 24
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 37
gcgccaatga gcctccccaa ttcc 24

<210> 38
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 38
 gagcctccct taggagcgaa tatgc 25

 <210> 39
 <211> 36
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 39
 cgctgcagg ccgcatgag cctccccaat tcctcc 36

 <210> 40
 <211> 34
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 40
 ccggtggatc ccgggccccg gagcgaatat gcag 34

 <210> 41
 <211> 63
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 41
 gggccccgga gcgaatatgc agaattctct tgaatgtcct cttgaatttt ttattgcaca 60
 agg 63

 <210> 42
 <211> 35
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 42
 aagaattcgc caccatggat gaaacaggaa atctg 35

<210> 43
 <211> 30
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 43
 ggggtaccgct actttacata tttcttctcc 30

<210> 44
 <211> 38
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 44
 ttcttttctg ggaaaaaatt taagagaagg ctgtctac 38

<210> 45
 <211> 37
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 45
 tgtagacagc cttctcttaa attttttccc agaaaag 37

<210> 46
 <211> 48
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 46
 ctttttgtgt ctgtttctga attcgccacc atggagagaa aatttatg 48

<210> 47
 <211> 46
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 47
 gaacaggctc catctaagag gtaccgctac tttgtttcc tttctc 46

<210> 48
 <211> 37
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 48
 gctgggaaaa aattttaaag aagactaaag tctgcac 37

 <210> 49
 <211> 38
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 49
 gtcttctttt aaattttttc ccagcaaagt aatagagc 38

 <210> 50
 <211> 26
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 50
 cccacctag ccaccatgaa cacttc 26

 <210> 51
 <211> 25
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 51
 ggggactatc agcattggcg ggagg 25

 <210> 52
 <211> 32
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 52
 cccacctgc agccaccatg aacacttcag cc 32

<210> 53
 <211> 33
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 53
 ggggaggatc cgcgattgg cgggagggag tgc 33

 <210> 54
 <211> 38
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 54
 cgcactctgc aacaaaaaat tcaaacgcac ctttcgcc 38

 <210> 55
 <211> 38
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 55
 ggcgaaagggt gcgtttgaat tttttgttgc agagtgcg 38

 <210> 56
 <211> 34
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 56
 ggggcgaatt cgccgcatg gaggaaccgg gtgc 34

 <210> 57
 <211> 34
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 57
 gcaaacggta ccgcacttgt gcacttaaaa cgta 34

 <210> 58

<211> 39
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 58
 atgtccaata aaaaatttaa aagagcattc cataaactg 39

 <210> 59
 <211> 38
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 59
 ggaatgctct tttaaatttt ttattggaca tggatatag 38

 <210> 60
 <211> 17
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 60
 aatacgactc actatag 17

 <210> 61
 <211> 49
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 61
 gccgccagtg tgatggatac tggtaaccgct agcagtgagt catttgtac 49

 <210> 62
 <211> 39
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 62
 ccccttatct acgccttttag cgcaaagaag ttcaagcgc 39

 <210> 63
 <211> 39

<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 63
gcgcttgaac ttctttgcg taaaggcgta gataagggg

39

<210> 64
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 64
ctgccggagc aaaaaattca aaagagcctt ccaggagc

38

<210> 65
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 65
cctggaaggc tcttttgaat tttttgctcc ggcagtag

38

<210> 66
<211> 19
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 66

Asn	Pro	Leu	Ile	Tyr	Cys	Arg	Ser	Pro	Asp	Phe	Ile	Arg	Ala	Phe	Gln
1				5					10					15	

Glu Leu Leu

<210> 67
<211> 19
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 67

Asn Pro Leu Ile Tyr Cys Arg Ser Lys Lys Phe Lys Arg Ala Phe Gln
 1 5 10 15

Glu Leu Leu

<210> 68
 <211> 38
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer

<400> 68
 cgtctctgct ccctggtacc gccaccttga gccagtgg 38

<210> 69
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer

<400> 69
 taatacgact cactataggg 20

<210> 70
 <211> 38
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer

<400> 70
 cgtctctgct ccctggtacc gccaccttga gccagtgg 38

<210> 71
 <211> 37
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer

<400> 71
 ctatgcggcc aaaaagttca aaagactgcc tgggtcc 37

<210> 72
 <211> 38
 <212> DNA
 <213> Artificial sequence

<220>
<223> primer

<400> 72
caggcagtct tttgaacttt ttggccgcat agatgggc

38

<210> 73
<211> 24
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 73

Ser	Ser	Met	Ala	Met	Val	Pro	Ile	Tyr	Ala	Ala	Tyr	Lys	Phe	Cys	Ser
1				5					10					15	

Leu	Pro	Gly	Ser	Phe	Arg	Glu	Lys
						20	

<210> 74
<211> 24
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 74

Ser	Ser	Met	Ala	Met	Val	Pro	Ile	Tyr	Ala	Ala	Lys	Lys	Phe	Lys	Arg
1				5					10					15	

Leu	Pro	Gly	Ser	Phe	Arg	Glu	Lys
						20	

<210> 75
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 75
ctatgcggcc aaaaagttca aaagactgcc tgggtcc

37

<210> 76
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 76
caggcagtct tttgaacttt ttggccgcat agatgggc

38

<210> 77
<211> 24
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 77

Ser Ser Met Ala Met Val Pro Ile Tyr Ala Ala Tyr Lys Phe Cys Ser
1 5 10 15

Leu Pro Gly Ser Phe Arg Glu Lys
20

<210> 78
<211> 24
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 78

Ser Ser Met Ala Met Val Pro Ile Tyr Ala Ala Lys Lys Phe Lys Arg
1 5 10 15

Leu Pro Gly Ser Phe Arg Glu Lys
20

<210> 79
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 79
gtcatttact aagcttgcca ccatggagac gacgcccttg

40

<210> 80
<211> 37
<212> DNA
<213> Artificial sequence

<220>

<223> primer
 <400> 80
 cctctcgggtg agtgggtaccg ccacagcatt caagcgg 37

<210> 81
 <211> 39
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer
 <400> 81
 ggacactgcc tggcaaagct tgcgagcatg gggccctgg 39

<210> 82
 <211> 40
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer
 <400> 82
 ggcggggactc caggcaggta ccgccgccac gtcatacctcc 40

<210> 83
 <211> 42
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer
 <400> 83
 ctatggaaga actggaaaaa atttaaaaga aacagcatca ac 42

<210> 84
 <211> 42
 <212> DNA
 <213> Artificial sequence

<220>
 <223> primer
 <400> 84
 caaagttgat gctgtttctt ttaaattttt tccagttctt cc 42

<210> 85
 <211> 20
 <212> PRT
 <213> Artificial sequence

<220>
 <223> synthesized

<400> 85

Phe Leu Leu Trp Lys Asn Trp Arg Leu Lys Asn Ile Asn Ser Ile Asn
1 5 10 15

Phe Asp Asn Pro
20

<210> 86

<211> 20

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 86

Phe Leu Leu Trp Lys Asn Trp Lys Lys Phe Lys Arg Asn Ser Ile Asn
1 5 10 15

Phe Asp Asn Pro
20

<210> 87

<211> 40

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 87

gctcttcggg ctcgagcagc gatgcgaccc tccgggacgg

40

<210> 88

<211> 39

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 88

ctatcctccg tggtagcgct gctccaataa attcactgc

39

<210> 89

<211> 37

<212> DNA

<213> Artificial sequence

<220>

<223> primer

<400> 89
gatcatcact ccaaagaaat ttaaaagacg tattatt

37

<210> 90
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 90
taatacgtct tttaaatttc tttggagtga tgatcaaccg

40

<210> 91
<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 91

Arg	Leu	Ile	Ile	Thr	Pro	Gly	Thr	Phe	Lys	Glu	Arg	Ile	Ile	Lys	Ser
1				5					10					15	

Ile Thr

<210> 92
<211> 18
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 92

Arg	Leu	Ile	Ile	Thr	Pro	Lys	Lys	Phe	Lys	Arg	Arg	Ile	Ile	Lys	Ser
1				5					10					15	

Ile Thr

<210> 93
<211> 34
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 93

gggtctctaa gcttgccgcc atgtccggga aggg

34

<210> 94
<211> 33
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 94
ccgcggcccc gaattcggat ggcattggtg gtg

33

<210> 95
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 95
cgtgccccaaag aaattcaagc gcctcaaagc cgtggtc

37

<210> 96
<211> 38
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 96
cggctttgag gcgcttgaat ttcttgggca cgttctgc

38

<210> 97
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 97

Phe His Pro Glu Gln Asn Val Pro Lys Arg Lys Arg Ser Leu Lys Ala
1 5 10 15

Val Val Thr Ala Ala Thr
20

<210> 98
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 98

Phe His Pro Glu Gln Asn Val Pro Lys Lys Phe Lys Arg Leu Lys Ala
1 5 10 15

Val Val Thr Ala Ala Thr
20

<210> 99
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 99
ggagacccca agcttccgca gccatgggca ccggggggcc 39

<210> 100
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 100
ccccgccacg ggccccggaa ggattggacc gaggcaagg 39

<210> 101
<211> 42
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 101
ccgctgggac cgaaaaaatt taagagaaac cctgagtatc tc 42

<210> 102
<211> 43
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 102
gataactcagg gtttctctta aatttttttcg gtcccagcgg ccc 43

<210> 103
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 103
taatacgact cactataggg

20

<210> 104
<211> 44
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 104
gactgcagcc tgggtggtacc gcagagcaag ccacatagct gggg

44

<210> 105
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 105
taatacgact cactataggg

20

<210> 106
<211> 44
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 106
gactgcagcc tgggtggtacc gcagagcaag ccacatagct gggg

44

<210> 107
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 107
gctgctctcc cacaaaaagt ttaagcggca gaagatctgg

40

<210> 108
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 108
ccagatcttc tgccgcttaa actttttgtg ggagagcagc

40

<210> 109
<211> 21
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Xaa equals Orn

<400> 109

Thr Val Leu Ala Leu Leu Ser His Arg Arg Ala Leu Lys Xaa Lys Ile
1 5 10 15

Trp Pro Gly Ile Pro
20

<210> 110
<211> 21
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> Xaa equals Orn

<400> 110

Thr Val Leu Ala Leu Leu Ser His Lys Lys Phe Lys Arg Xaa Lys Ile
1 5 10 15

Trp Pro Gly Ile Pro
20

<210> 111
<211> 40

<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 111
gctcttcggg ctgcagcagc gatgcgaccc tccgggacgg

40

<210> 112
<211> 39
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 112
ctatcctccg tggtagcgct gctccaataa attcactgc

39

<210> 113
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 113
cacatcggtc ggaagaagtt taagcggagg ctgctgc

37

<210> 114
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 114
cctgcagcag cctccgctta aacttcttcc gaacgatgtg

40

<210> 115
<211> 19
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 115

Arg Arg Arg His Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln
1 5 10 15

Glu Arg Glu

<210> 116
<211> 19
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 116

Arg	Arg	Arg	His	Ile	Val	Arg	Lys	Lys	Phe	Lys	Arg	Arg	Leu	Leu	Gln
1				5					10					15	

Glu Arg Glu

<210> 117
<211> 49
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 117
gaggactctg aacaccgaat tcgccgccat ggacgggact gggctggtg 49

<210> 118
<211> 45
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 118
gtgtggcagg attcatctgg gtaccgcggt tgggtgctga ccgtt 45

<210> 119
<211> 41
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 119
cctctgagga cctgaaaaag aagagaaagg ctggcatcgc c 41

<210> 120
<211> 41
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 120
ggc gatgcc a gcctttctct tctttttcag gtcctcagag g

41

<210> 121
<211> 33
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 121

Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Asn	Ala	Asp	Phe	Arg	Lys	Ala	Phe	Ser
1				5					10					15	

Thr	Leu	Leu	Ser	Ser	Glu	Asp	Leu	Lys	Lys	Glu	Glu	Ala	Ala	Gly	Ile
			20					25					30		

Ala

<210> 122
<211> 33
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 122

Asn	Pro	Ile	Ile	Tyr	Ala	Phe	Asn	Ala	Lys	Lys	Phe	Lys	Arg	Phe	Ser
1				5					10					15	

Thr	Leu	Leu	Ser	Ser	Glu	Asp	Leu	Lys	Lys	Lys	Arg	Lys	Ala	Gly	Ile
			20					25					30		

Ala

<210> 123
<211> 45
<212> DNA
<213> Artificial sequence

<220>
<223> primer

<400> 123
cctagtcgc agcaggccga attcgccacc atggacagca gcacc

45

<210> 124
 <211> 44
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 124
 gatggtgtga gaccggtacc gcgggcaatg gagcagtttc tgcc 44

<210> 125
 <211> 45
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 125
 cctagtccgc agcaggccga attcgccacc atggacagca gcacc 45

<210> 126
 <211> 45
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 126
 ggatggtgtg agaccggtac cgcgggcaat ggagcagttt ctgcc 45

<210> 127
 <211> 30
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 127
 gccttcctgg ataaaaaatt caagcgatgc 30

<210> 128
 <211> 31
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> primer

 <400> 128
 gcacgccttg aattttttat ccaggaaggc g 31

<210> 129
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 129

Pro Lys Lys Lys Arg Lys Val
1 5

<210> 130
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (4)..(14)
<223> Xaa equals a sequence of any 11 amino acids

<400> 130

Arg Arg Arg Xaa Lys Arg Arg Lys
1 5

<210> 131
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (3)..(17)
<223> Xaa equals a sequence of any 15 amino acids

<400> 131

Lys Lys Xaa Lys Lys Arg Lys
1 5

<210> 132
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 132

Lys Arg Lys Arg Arg Pro
1 5

<210> 133

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 133

Pro Lys Lys Asn Arg Leu Arg Arg Lys
1 5

<210> 134

<211> 10

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<220>

<221> MISC_FEATURE

<222> (5)..(24)

<223> Xaa equals a sequence of any 20 amino acids

<400> 134

Lys Arg Gln Arg Xaa Lys Lys Ser Lys Lys
1 5 10

<210> 135

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 135

Pro Ala Ala Lys Arg Val Lys Leu Asp
1 5

<210> 136

<211> 6

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 136

Gln Arg Lys Arg Gln Lys
1 5

<210> 137

<211> 17

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 137

His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr Phe Lys Ser
1 5 10 15

Ile

<210> 138

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 138

Lys Lys Lys Tyr Lys Leu Lys
1 5

<210> 139

<211> 7

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 139

Lys Ser Lys Lys Lys Ala Gln
1 5

<210> 140

<211> 9

<212> PRT

<213> Artificial sequence

<220>

<223> synthesized

<400> 140

Lys Lys Lys Lys Arg Lys Arg Glu Lys
1 5

<210> 141
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 141

Leu Lys Arg Pro Arg Ser Pro Ser Ser
1 5

<210> 142
<211> 13
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (4)..(25)
<223> Xaa equals a sequence of any 22 amino acids

<400> 142

Lys Arg Lys Xaa Lys Glu Leu Gln Lys Gln Ile Thr Lys
1 5 10

<210> 143
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 143

Gly Lys Lys Lys Tyr Lys Leu Lys His
1 5

<210> 144
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 144

Lys Lys Lys Tyr Lys Leu Lys
1 5

<210> 145
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 145

Lys Ser Lys Lys Lys Ala Gln
1 5

<210> 146
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (4)..(353)
<223> Xaa equals a sequence of any 350 amino acids

<400> 146

Glu Glu Asp Xaa Lys Lys Lys Arg Glu Arg Leu Asp
1 5 10

<210> 147
<211> 25
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 147

Cys Tyr Phe Gln Lys Lys Ala Ala Asn Met Leu Gln Gln Ser Gly Ser
1 5 10 15

Lys Asn Thr Gly Ala Lys Lys Arg Lys
20 25

<210> 148
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (6)..(328)
<223> Xaa equals a sequence of any 323 amino acids

<400> 148

Asp Ile Leu Arg Arg Xaa Pro Lys Gln Lys Arg Lys
1 5 10

<210> 149
<211> 22
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 149

Ser Ser Asp Asp Glu Ala Thr Ala Asp Ser Gln His Ser Thr Pro Pro
1 5 10 15

Lys Lys Lys Arg Lys Val
20

<210> 150
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (6)..(14)
<223> Xaa equals a sequence of any 9 amino acids

<400> 150

Arg Lys Lys Arg Lys Xaa Lys Ala Lys Lys Ser Lys
1 5 10

<210> 151
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE

<222> (3)..(13)
<223> Xaa equals a sequence of any 11 amino acids

<400> 151

Lys Arg Xaa Lys Lys Leu Arg
1 5

<210> 152
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (5)..(27)
<223> Xaa equals a sequence of any 22 amino acids

<220>
<221> MISC_FEATURE
<222> (5)..(26)
<223> Xaa equals any amino acid

<400> 152

Arg Arg Pro Ser Xaa Arg Arg Lys Arg Gln Lys
1 5 10

<210> 153
<211> 8
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (4)..(14)
<223> Xaa equals a sequence of any 11 amino acids

<400> 153

Arg Arg Arg Xaa Lys Arg Arg Lys
1 5

<210> 154
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>

<221> MISC_FEATURE
<222> (3)..(12)
<223> Xaa equals a sequence of any 10 amino acids

<400> 154

Lys Arg Xaa Lys Lys Lys Leu
1 5

<210> 155
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<220>
<221> MISC_FEATURE
<222> (5)..(11)
<223> Xaa equals a sequence of any 7 amino acids

<400> 155

Arg Lys Arg Lys Xaa Arg Arg Ser Arg Tyr Arg Lys
1 5 10

<210> 156
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 156

Met Ile Ser Glu Ala Leu Arg Lys Ala
1 5

<210> 157
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> synthesized

<400> 157

Lys Lys Phe Lys Arg
1 5

<210> 158
<211> 9
<212> PRT
<213> Artificial sequence

<220>

<223> synthesized

<400> 158

Ala Phe Ser Ala Lys Lys Phe Lys Arg
1 5